

CLEAN VERSION OF CLAIMS

30. A method for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the method comprising the steps of:
- (a) preparing an assay mixture comprising:
 - the sample,
 - one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe complementary to the analyte and hybridizing therewith, the label generating a detectable electrochemiluminescent emission, wherein the labeled complex is immobilized on a magnetic particle,
 - an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, and
 - a coreactant,
 - (b) bringing the assay mixture into contact with a working electrode,
 - (c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed,
 - (d) separating unhybridized labeled complex from hybridized labeled complex,
 - (e) measuring the electrochemiluminescent emission produced by the label hybridized to the analyte via the oligonucleotide probe, and
 - (f) correlating the measured electrochemiluminescent emission with the presence or amount of the analyte in the sample.

31. A method for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the method comprising the steps of:

(a) preparing an assay mixture comprising:

the sample,

one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe, complementary to the analyte and hybridizing therewith, the label generating a detectable electrochemiluminescent emission, the labeled complex further comprising an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, the quenching moiety attached to the probe, wherein the labeled complex is immobilized on a magnetic particle, and

a coreactant,

(b) bringing the assay mixture into contact with a working electrode,

(c) applying a potential to the electrode, thereby enabling an electrochemiluminescence reaction to proceed,

(d) separating unhybridized labeled complex from hybridized labeled complex,

(e) measuring the electrochemiluminescent emission produced by the label hybridized to the analyte via the oligonucleotide probe, and

(f) correlating the measured electrochemiluminescent emission with the presence or amount of the analyte in the sample.

32. An assay reagent kit for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the assay reagent kit comprising, in one or more containers in packaged combination:

one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe hybridizing with the analyte, the label generating a detectable electrochemiluminescent emission, wherein the labeled complex is immobilized on a magnetic particle,

an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, and

a coreactant.

33. An assay reagent kit for qualitative or quantitative electrochemiluminescence detection of an oligonucleotide target analyte in a sample, the assay reagent kit comprising, in one or more containers in packaged combination:

one or more assay reagents comprising a labeled complex comprising an electrochemiluminescent label selected from the group consisting of ruthenium bipyridine complexes and osmium bipyridine complexes attached to an oligonucleotide probe, complementary to the analyte and hybridizing therewith, the label generating a detectable electrochemiluminescent emission, the labeled complex further comprising an electrochemiluminescence quenching moiety selected from the group consisting of phenol and benzoquinone, the quenching moiety attached to the probe, wherein the labeled complex is immobilized on a magnetic particle, and

a coreactant.